



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,816	11/28/2001	Katsuyuki Morii	111219	9757
25944 7590 01/29/2007 OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER BASHORE, ALAIN L	
			ART UNIT	PAPER NUMBER
			1762	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		01/29/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

8

<b>Office Action Summary</b>	<b>Application No.</b> 09/994,816	<b>Applicant(s)</b> MORII ET AL.	
	<b>Examiner</b> Alain L. Bashore	<b>Art Unit</b> 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7 and 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10-26-06 has been entered.

### ***Specification***

2. With the submission of a legible copy of the marked-up specification, the substitute specification filed 10-26-06 is hereby entered.

### ***Allowable Subject Matter***

3. The indicated allowability of claims is withdrawn in view of the newly discovered reference(s) to Ohnishi et al. Rejections based on the newly cited reference(s) follow.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita et al (2003/0054186 ) in view of Antoniadis et al further in view of Ohnishi et al..

Miyashita et al teaches a method for manufacturing an organic electroluminescent (EL) device, comprising: forming light emitting layers by discharging above a substrate, three compositions, each including at least one electroluminescent material.

Miyashita et al does not explicitly teach:

that at least two of the inks include more than one EL material,  
ordering the discharging of such inks starting with the ink with the least number of EL material wherein there is formed a layer in a state in which each of the organic eletro-luminescent materials is uniformly mixed without separation;  
when discharging compositions which have the same number of organic eletro-lumincent materials, ordering discharging said compositions above the

substrate with a composition with a composition which is most difficult to be phased separated after the layer is formed.

Antoniadis et al teaches using doped polyfluorenes for all three colors (that is, inks with at least two EL materials) (col. 3, lines 36-57). Therefore, it would have been obvious to one of ordinary skill in the art to have deposited such inks for all three colors because such doped inks are known in the art as suitable EL inks.

Ohnishi et al teaches the importance of mixture uniformity and desirability of non-phase separation for EL materials (col 4, lines 38-67; col 5, lines 1-7). Therefore, it would have been obvious to one with ordinary skill in the art to include:

ordering the discharging of such inks starting with the ink with the least number of EL material wherein there is formed a layer in a state in which each of the organic electro-luminescent materials is uniformly mixed without separation;

when discharging compositions which have the same number of organic electro-luminescent materials, ordering discharging said compositions above the substrate with a composition with a composition which is most difficult to be phased separated after the layer is formed;

because Ohnishi et al teaches the desirability for EL materials for organic electroluminescent devices.

Art Unit: 1762

6. Claims 3-4, 7, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyashita (2003/0054186 ) in view of Antonaidis further in view of Ohnishi et al as applied to claims 1-2 above, and further in view of Nanto et al.

Miyashita in view of Antonaidis are discussed above, but do not explicitly teach drying between application of consecutive inks. However, 'nanto et al teaches the suitability of drying after the application of each color ink for a color display panel (col. 1, line 58-col. 2, line 12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have dried each color after applying it with a reasonable expectation of success because Nanto et al teaches that such is a suitable method of applying multiple colors of a color display panel.

Regarding claims 4 and 9: Miyashita et al teaches that the process may include forming pixel electrodes (101-103) and banks (105) between them, forming the EL layer and forming a cathode over the EL layer (Fig. 1) and teaches that a hole-transporting layer may be present between the pixel electrodes and the EL layer (Fig. 5), but does not explicitly teach using the embodiments together.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the banks of Fig. 1 in conjunction with the hole-

Art Unit: 1762

transporting layer of Fig. 5 in order to have achieved the superior hole-transporting ability of the hole-transport layer and the contrast afforded by the banks with a reasonable expectation of success because those are the known advantages of hole-transport layers and banks. Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have done so to have conserved hole-transporting material by only placing it in effective locations (i.e., above the pixel electrodes). Note: Antoniadis et al also teaches that the hole-transport layers may be deposited in between the barriers separating pixels.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alain L. Bashore whose telephone number is 571-272-6739. The examiner can normally be reached on about 7:30 am to 5:00 pm (Mon. thru Thurs.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1762

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Alain L. Bashore  
Primary Examiner  
Art Unit 1762